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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, RIP A

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 08/12/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

MS

**Office Action Summary**

Application No.

09/715,775

Applicant(s)

KAO ET AL.

Examiner

Rip A. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 and 15-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-14 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

### **DETAILED ACTION**

This office action follows a provisional election made with traverse to prosecute the invention described by claims 10-14. This transaction occurred on June 8, 2001 in a conversation between Lisa Kimes Jones, Esq. and examiner Jim Pasterczyk. A confirmation of the election was made on August 5, 2002.

#### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-9 and 15-22, drawn to a catalyst and a method for preparing the catalyst, classified in class 502, subclass 108.
  - II. Claims 10-14, drawn to a process for polymerizing olefins, classified in class 526, subclass 160.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product can be used for a materially different process such as olefin isomerization or alkene hydrogenation. Furthermore, the claimed process can be practiced with another materially different product such as a chromium-on-silica catalyst or a Ziegler-Natta catalyst.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Darrell E. Warner on August 5, 2002, a provisional election was made with traverse to prosecute the invention of group II, claims 10-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-9 and 15-22 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Claim Objections*

8. Claim 10 is objected to because of the following informalities: The claim recites the term "metallocene catalyst compound," which is technically incorrect. The metallocene alone is incapable of catalyzing the claimed olefin polymerization process; therefore, it is merely a catalyst component. Appropriate correction of terminology is required.

### *Claim Rejections - 35 USC § 112*

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "bulky" is a relative term which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. As an example, the 1,3-dimethylcyclopentadienyl ligand may be considered "bulky" relative to its unsubstituted analogue, however, it is hardly considered a bulky ligand compared to an indenyl ligand.

*Claim Rejections - 35 USC § 102*

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,674,795 to Wasserman *et al.*

Wasserman *et al.* teach a process for polymerization of olefins in the presence of a catalyst composition comprising a metallocene compound, a cocatalyst, and a particulate filler material (claim 1). The metallocene contains two substituted cyclopentadienyl ligands bridged by a bridging group (claims 3 and 4). The activator is an alumoxane (see examples in Table I). The catalyst is slurried in Kaydol which is a mineral oil having a flash point greater than 200 °F (see Table II). The catalyst can be adapted for slurry and gas phase polymerizations (col. 12, line 56). As such, all aspects of the present invention are present in the prior art of Wasserman *et al.*

13. Claims 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,239,058 to Shamshoum *et al.*

Shamshoum *et al.* discloses a process for polymerization of olefins in the presence of a catalyst composition comprising a metallocene supported on silica treated with MAO. The supported catalyst is also contacted with a trialkylaluminum compound (claim 1). The catalyst is

suspended in mineral oil (Example 1). A particular metallocene is  $\text{Ph}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$  (claim 6, figure col. 4). As such, all aspects of the present invention are present in the prior art of Shamshoum *et al.*

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 578 838 to Herrmann *et al.*

Herrmann *et al.* discloses a supported polymerization catalyst comprised of a supported organoaluminum compound and a metallocene catalyst component (claim 1), to which water is added to effect hydrolysis of the suspension (claim 2). The organoaluminum compound is

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trimethylaluminum (claim 3). Although use of the term "ionizing activator" is absent in the claims, one with skill in the art would find it obvious that the catalyst thus prepared results in the formation of alumoxanes; the latter are known in the art to be ionizing activators. The catalysts are prepared by suspension in diesel oil (Example 1). Metallocenes of the invention contained the bridged, *bis*-indenyl ligand set (Structure I, page 3). Although no examples of a gas phase polymerization is provided in the examples, the inventors contemplate such a process (page 12, line 57), and state that the supported catalyst is applicable in all polymerization processes (abstract). Thus, it would have been obvious to one having ordinary skill in the art to use the catalyst in a gas phase reaction.

8. The prior art made of record but not relied upon is considered pertinent to the Applicant's disclosure. The following references relate to the use of supported metallocene-based compounds or Ziegler catalysts slurried in mineral oil diluent.

U.S. Patent No. 4,548,915 to Goodall *et al.*

U.S. Patent No. 4,818,799 to Chatterjee *et al.*

U.S. Patent No. 5,661,098 to Harrison *et al.*

U.S. Patent No. 6,096,840 to Bernier *et al.*

U.S. Patent No. 6,399,531 to Job *et al.*



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (703)306-0094. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (703)308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703)746-7064. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

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March 3, 2002



DAVID W. WU  
SUPERVISORY PATENT EXAMINER  
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